BASF Corporation
Chemicals Division

BASF

CERTIFIED MAIL - RETURN RECEIPT
REQUESTED: P 803 601 592

October 17, 1988

Ms. Joan M. Arthur
U.S. EPA Region V
230 S. Dearborn Street
Chicago, IL 60604

Dear Ms. Arthur:

Re: Administrative Order Docket No. V-W-88-AO-31
Riverview, Michigan Site

BASF Corporation, Chemicals Division, has completed the detailed study for evaluating the extent to which pollutants are being discharged from the Riverview site to the Trenton Channel of the Detroit River. The study was conducted as described in the plan attached to BASF's February 26, 1988 correspondence with C. H. Sutfin and supplemented by each of the suggestions offered in your April 29, 1988 letter to C. W. Axce.

The study began on May 23, 1988 and concluded August 19. During that four (4) month period, analysis was conducted following six (6) measurable precipitation events. On each occasion it was possible to completely contain all of the impounded water behind the dam for the purposes of measuring its total volume and analyzing for each of the stipulated parameters. A rain gage was installed on site to better quantify on-site precipitation. Groundwater levels at each of the 13 monitoring wells and of the Detroit River were recorded regularly throughout the study.

The ratio of run-off to the total precipitation recharge was calculated using the area of the site (30 acres), the measured rainfall and the gallonage retained behind the dam placed in the center trench.

The center trench was first sampled then completely cleared of ponded water after each measurable rain.

The North and South parameter ditches were inspected at least weekly or after each rain event. At no time was there either ponded water or visible surface runoff from either of these ditches into the river.

At no time during the study period did BASF observe visible seepage into the center trench. However, on August 19, 1988, a small volume (44 gallons) of discolored water had ponded in the center trench near Sections 3 and 6. By its appearance (brownish color), it was presumed seepage water.

All sampling was conducted by BASF. Chemical analysis was performed by Burmah Technical Services, Inc. Analytical Laboratories Div., 408 Auburn Avenue, Pontiac, Michigan 48058.

The precipitation (recharge) data and the chemical analysis are summarized in Table 1. The groundwater elevation data taken from each of the on-site monitor wells is presented on Table 2.

1609 Biddle Avenue, Wyandotte, Michigan 48192 (313) 246-6100

Based on these data, BASF has concluded the following:

- There is no discharge of surface run-off from the North or South Perimeter trenches.
- There was no observed generation or discharge of seepage water to the center trench or to the Detroit River. The only possible exception (1 of 6 rainfalls) might have been the deminimus 44-gallon puddle of discolored water observed on August 19. Chemical constituents of this water should not be considered noteworthy because of the insignificant concentrations found.
- No correlation of seepage quantities to groundwater levels could be determined.
- The methods BASF used to estimate quantities of potential stormwater run-off were accurate to ±10%.
- On average, only 12 gallons per 10,000 gallons of rainfall have the potential for discharge to the river from the center trench.
- Analysis by an independent laboratory shows the chemicals of concern are, in most cases, not present or at such low levels as to present no threat to human health or the environment.

Yours very truly,

H. D. Roush
Manager
Quality & Ecology Services Department

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atts.

cc: R. G. Newport, USEPA, Region V
B. Eleder, USEPA, Region V
L. Lipinski, MDNR
C. Morse, MDNR

TABLE 1

BASF - RIVERVIEW STUDY

PRECIPITATION DATA & CHEMICAL ANALYSIS

Survey Date		6/2/88	6/23/88	7/18/88	7/19/88	7/26/88	8/15/88	8/19/88
Precipitation (inches/24 hrs.)		0.40	0.28	0.75	0.28	0.75	0.75	
Impounded Volume (gal.)	North	0	0	0	0	0	0	
	South	0	0	0	0	0	0	
	Center	500	400	160	400	643	386	
Seepage Volume (gal.)	Center	0	0	0	0	0	0	44*
Total Potential Runoff (gal.)		500	400	160	400	643	386	44
Chemical Analysis (ppb)								
Benza-(a)pyrene		<10	<10	<10	<10	<10	<10	<500
Naphthalene		<10	<10	<10	<10	<10	<10	<500
Pentachlorophenol		<15	<15	<15	<15	<15	<15	250
Mercury		7	<1	1.3	<0.5	2.5	1	47
Arsenic		<5	<5	<5	<5	<5	<5	<5
Copper			20	<20	<20	20	30	140
Iron			<50		320	2200	8800	12000
Lead			<50		<50	-	-	-
Zinc			<20	180	<20	100	180	140

*Discolored water, presumed seepage.

TABLE 2

RIVERVIEW GROUNDWATER LEVELS

USGS DATUM

Well I.D.	Mar. 29, 1988	June 14, 1988	July 11, 1988	Aug. 9,1988	Sept. 9, 1988
A	574.57	574.37	574.13	574.05	573.78
B	574.61	574.29	574.06	574.05	573.75
C	574.55	574.20	573.97	573.96	573.66
D	576.40	574.07	573.70	573.65	573.41
E	576.60	574.27	573.83	573.76	573.52
F	570.33	576.11	574.98	575.62	575.66
G	577.35	576.25	576.25	575.90	575.35
H	573.49	574.05	574.60	574.75	574.81
I	576.77	575.62	575.52	575.13	574.77
J	576.18	576.65	576.56	576.00	575.46
K	575.19	575.32	575.19	574.92	574.63
L	576.95	575.53	575.11	574.98	574.78
M	Dry	Dry	Dry	Dry	Dry
River	574.88	573.07	574.36	573.91	574.13
Average	575.25	575.06	574.83	574.73	574.47